VARUN AJITH

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OBJECTIVE

Recent Robotics and Automation Engineering graduate with hands-on experience in ROS, autonomous systems, and sensor integration. Skilled in both hardware and software aspects of robotics, eager to contribute to the development of innovative mobility platforms. Looking for a Robotics Systems Engineer role to apply my technical expertise and problem-solving skills in a dynamic and challenging environment.

EDUCATION

BTech in Robotics and Automation, Saintgits College of Engineering, Kottayam 2019 - 2023
CGPA: 7.7

Higher Secondary Education, GHSS Ramapuram 2015 - 2017
Percentage: 85%

Secondary Education, Bishop Moore Vidyapith, Kayamkulam 2010 - 2015
Percentage: 80%

SKILLS

Programming	C++, Python, ROS2, Ladder Logic, ROS
Hardware	Raspberry Pi, ESP32, PLC, Servo Motors, IMU Sensors
Technologies	Ubuntu, LiDAR, GPS, Computer Vision, Sensor Fusion, communication protocols
Tools	Gazebo Simulation, OpenCV, Arduino IDE
Professional skills	Technical Documentation, Critical Thinking, Resilience

EXPERIENCE

Intern Oct 2024
Indian Institute of Science (IISc), Bangalore

- Assisted in developing a drone system designed for naval supply missions with extended range and autonomous capabilities.
- Calibrated servo motors for the Shipborne Drone Landing System, ensuring stable horizontal alignment of the landing pad under wave disturbances.
- Simulated drone dynamics and control algorithms in Gazebo, contributing to the refinement of flight performance and stability.
- Gained in-depth knowledge of control theories and their mathematical and physical principles while collaborating with research teams.

PROJECTS

- **Search and Rescue Robot**: Designed and developed a six-legged robot for search and rescue operation using LiDAR and GPS. Developed motion planning algorithms and sensor integration for navigation in dynamic environments, reducing fatality by 12%.
- **Gesture-Controlled Robot Car**: Implemented gesture recognition algorithms to achieve real-time control of a robotic car using IMU sensors.
- **Automated Metal Segregator**: Engineered a PLC-based sorting system with sensors, optimizing accuracy and throughput by 5%.
- **Auto Mains Fail (AMF)**: Designed a PLC ladder logic system, reducing power failure response time in industrial systems by 2%.

CERTIFICATION

Completed a **PG Diploma in Industrial Automation** at SMEC Labs, Kochi, from August 2023 - December 2023. Acquired expertise in PLC programming, SCADA systems, and industrial robotics.

PUBLICATION

Published a paper titled '**Search and Rescue Robot**' in Volume 12, Issue 1, 2024 of the International Journal of Science, Engineering, and Technology (IJSET). The paper covers the development and deployment of an autonomous robot for emergency navigation.